

CLAIMS:

1. A laundry treatment composition comprising a silicone having a viscosity modifying agent dissolved or dispersed therein and a deposition aid, wherein the deposition aid comprises a polymeric material comprising one or more moieties for enhancing affinity for a fabric, especially cotton or a cotton-containing fabric and one or more silicone moieties.
- 10 2. A laundry treatment composition as claimed in claim 1, wherein the viscosity modifying agent is a volatile silicone.
3. A laundry treatment composition as claimed in claim 1, wherein the viscosity modifying agent is a perfume.
- 15 4. A laundry treatment composition as claimed in claim 3, wherein the perfume which comprises the viscosity modifying agent, also comprises a vehicle or carrier therefor, at least part of the vehicle or carrier also being dissolved or dispersed in the silicone, the weight ratio of all dispersed and dissolved parts of perfume to the silicone being from 1:1,000 to 2:1, preferably from 1:100 to 1:5, more preferably from 1:50 to 1:10.
- 20 5. A laundry treatment composition as claimed in claim 1, wherein the ratio of total dissolved and/or dispersed viscosity modifying agent to silicone is from 1:10,000 to 1:5, preferably from 1:1,000 to 1:10.
- 25 6. A laundry treatment composition as claimed in claim 1, where the silicone with dissolved or dispersed viscosity modifying agent and the deposition aid is in the form of an emulsion.
- 30 7. An emulsion according to claim 6, further comprising an emulsifying agent.
8. An emulsion according to claim 7, wherein the emulsifying agent comprises a nonionic surfactant.

9. An emulsion according to claim 6, wherein the total amount of silicone with dissolved or dispersed viscosity modifying agent is from 50 to 95%, preferably from 60 to 90%, more preferably from 70 to 85% by weight of the silicone with dissolved or dispersed viscosity modifying agent plus deposition aid plus any emulsifying agent.

10 10. An emulsion according to claim 6 , wherein the emulsion comprises from 30% to 99.9%, preferably 40 to 99% of another liquid component, preferably a polar solvent, most preferably water.

11 15. A laundry treatment composition according to claim 6 , wherein the weight ratio of silicone with dissolved or dispersed viscosity modifying agent to emulsifying agent is from 100:1 to 2:1, preferably from 100:3 to 5:1, more preferably from 15:1 to 7:1.

12 20 15. A laundry treatment composition as claimed in claim 1, wherein the weight ratio of silicone with dissolved or dispersed viscosity modifying agent to the deposition aid is from 1:1 to 100:1, preferably from 5:1 to 20:1.

20 13. A laundry treatment composition as claimed in claim 1, wherein the deposition aid comprises a substituted polysaccharide comprising β_{1-4} linkages having covalently bonded on the polysaccharide moiety thereof, at least one deposition enhancing group which undergoes a chemical change in water at a use temperature to increase the affinity of the substituted polysaccharide to a substrate, the substituted polysaccharide further comprising one or more independently selected silicone chains.

25 14. A laundry treatment composition as claimed in claim 13, wherein the substituted polysaccharide comprises only β_{1-4} linkages.

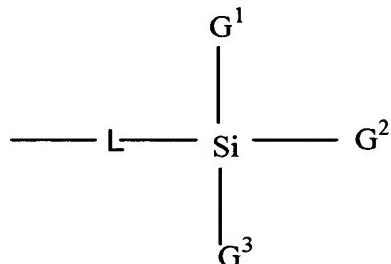
30 15. A laundry treatment composition as claimed in claim 13, wherein the substituted polysaccharide comprises additional linkages.

35 16. A laundry treatment composition as claimed in claim 15, wherein the substituted polysaccharide comprises β_{1-4} and β_{1-3} linkages.

17. A laundry treatment composition as claimed in claim 16, wherein the weight ratio of β_{1-3} to β_{1-4} linkages is from 1:100 to 1:2.

- 5 18. A laundry treatment composition as claimed in claim 13, wherein the average degree of substitution of the silicone chain(s) on the substituted polysaccharide is from 0.001 to 0.5, preferably 0.01 to 0.5, more preferably from 0.01 to 0.1, even more preferably from 0.01 to 0.05.
- 10 19. A laundry treatment composition as claimed in claim 13, wherein the silicone chain(s) in the substituted polysaccharide is or are independently selected from those of formula:

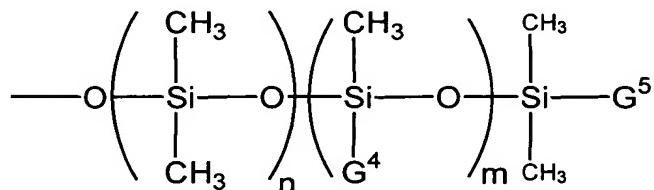
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wherein L is absent or is a linking group and one or two of substituents G¹-G³ is a methyl group, the remainder being selected from groups of formula

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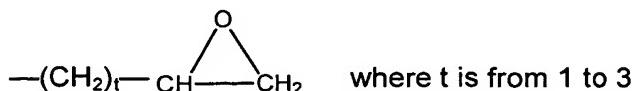
the $—Si(CH_3)_2O-$ groups and the $—Si(CH_3O)(G^4)-$ groups being arranged in random or block fashion, but preferably random.

35 wherein n is from 5 to 1000, preferably from 10 to 200 and m is from 0 to 100,

preferably from 0 to 20, for example from 1 to 20.

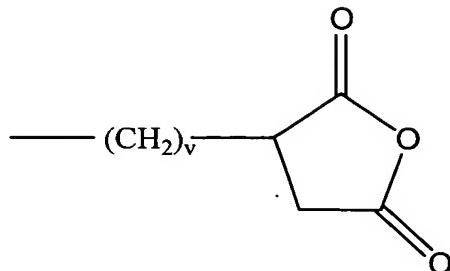
G^4 is selected from groups of formula:

- (CH₂)_p—CH₃, where p is from 1 to 18
- 5 —(CH₂)_q—NH—(CH₂)_r—NH₂ where q and r are independently from 1 to 3
- (CH₂)_s—NH₂, where s is from 1 to 3



—(CH₂)_u—COOH, where u is from 1 to 10,

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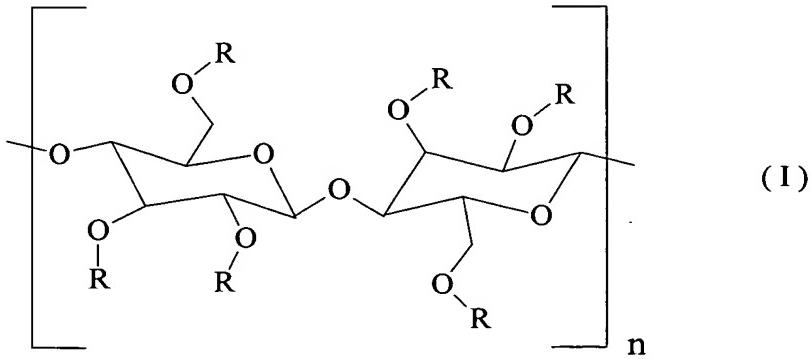
where v is from 1 to 10, and

- (CH₂—CH₂O)_w—(CH₂)_x H, where w is from 1 to 150, preferably from 10 to 20 and x is
- 25 from 0 to 10;

and G^5 is independently selected from hydrogen, groups defined above for G^4 , —OH, —CH₃ and —C(CH₃)₃.

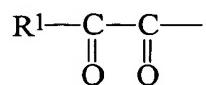
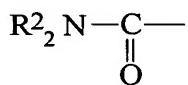
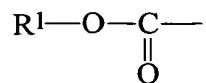
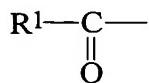
- 30 20. A laundry treatment composition as claimed in claim 19, where L is selected from amide linkages, ester linkages, ether linkages, urethane linkages, triazine linkages, carbonate linkages, amine linkages and ester-alkylene linkages.

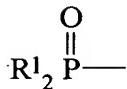
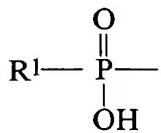
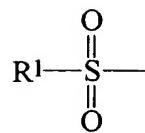
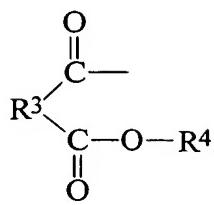
21. A laundry treatment composition as claimed in claim 13, wherein the chemical change of the relevant group in the substituted polysaccharide is hydrolysis, perhydrolysis or bond-cleavage, optionally catalysed by an enzyme or another catalyst.
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22. A laundry treatment composition as claimed in claim 13, wherein the group(s) in the substituted polysaccharide which undergo the chemical change comprise one or more groups attached via an ester linkage to the polysaccharide.
- 10
23. A laundry treatment composition as claimed in claim 13 wherein the substituted polysaccharide has the general formula (I):-



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 (optional β_{1-3} and/or other linkages and/or other groups being permitted in the formula (I)) wherein at least one or more -OR groups of the polymer are independently substituted or replaced by silicone chains and at least one or more R groups are independently selected from groups of formulae:-

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- 5 wherein each R¹ is independently selected from C₁₋₂₀ (preferably C₁₋₆) alkyl, C₂₋₂₀ (preferably C₂₋₆) alkenyl (e.g. vinyl) and C₅₋₇ aryl (e.g. phenyl) any of which is optionally substituted by one or more substituents independently selected from C₁₋₄ alkyl, C₁₋₁₂ (preferably C₁₋₄) alkoxy, hydroxyl, vinyl and phenyl groups;
- 10 each R² is independently selected from hydrogen and groups R¹ as hereinbefore defined;

R³ is a bond or is selected from C₁₋₄ alkylene, C₂₋₄ alkenylene and C₅₋₇ arylene (e.g. phenylene) groups, the carbon atoms in any of these being optionally substituted by one or more substituents independently selected from C₁₋₁₂ (preferably C₁₋₄) alkoxy, vinyl, hydroxyl, halo and amine groups;

15 each R⁴ is independently selected from hydrogen, counter cations such as alkali metal (preferably Na) or $\frac{1}{2}$ Ca or $\frac{1}{2}$ Mg, and groups R¹ as hereinbefore defined;

20 and

groups R which together with the oxygen atom forming the linkage to the respective saccharide ring forms an ester or hemi-ester group of a tricarboxylic- or higher polycarboxylic- or other complex acid such as citric acid, an amino acid, a synthetic amino acid analogue or a protein;

any remaining R groups being selected from hydrogen and other substituents.

24. A laundry treatment composition as claimed in claim 22, wherein the ester-linked group(s) is/are selected from carboxylic acid esters.
25. A laundry treatment composition as claimed in claim 22, wherein the ester-linked group(s) is/are independently selected from one or more of acetate, propanoate, trifluoroacetate, 2-(2-hydroxy-1-oxopropoxy) propanoate, lactate, glycolate, pyruvate, crotonate, isovalerate, cinnamate, formate, salicylate, carbamate, methylcarbamate, benzoate, gluconate, methanesulphonate, toluene sulphonate, groups and hemiester groups of fumaric, malonic, itaconic, oxalic, maleic, succinic, tartaric, aspartic, glutamic, and malic acids.
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26. A laundry treatment composition as claimed in claim 13, wherein the average degree of substitution on the saccharide rings of the polysaccharide, of the groups which undergo the chemical change is from 0.1 to 3, preferably from 0.1
15 to 1.
27. A laundry treatment composition as claimed in claim 13, wherein the substituted polysaccharide further comprises one or more other pendant groups which are neither silicone chains nor groups which undergo a chemical change to enhance
20 substrate affinity.
28. A laundry treatment composition as claimed in claim 27, wherein the average degree of substitution of other pendant groups is from 0.001 to 0.5, preferably from 0.001 to 0.05.
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29. A laundry treatment composition as claimed in claim 13, wherein the total amount of the substituted polysaccharide is from 0.001% to 10%, preferably from 0.005% to 5%, more preferably from 0.01% to 3% by weight of the total composition.
30. 30. A laundry treatment composition as claimed in claim 1, wherein the total amount of silicone with dissolved or dispersed viscosity modifying agent is from 0.0001% to 25%, preferably from 0.0001% to 5% by weight of the total composition.
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31. A laundry treatment composition as claimed in claim 1, wherein at least the silicone with dissolved or dispersed viscosity modifying agent and the deposition

aid are in the form of an emulsion and the emulsion is in an amount of from 0.0001 to 40%, more preferably from 0.001 to 30%, even more preferably from 0.1 to 20%, especially from 1 to 15% and for example from 5 to 10% by weight of the total composition.

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32. A laundry treatment composition as claimed in claim 1, which is a main wash composition.
33. A laundry treatment composition as claimed in claim 32, which further comprises:
 - (a) from 5 to 60 wt %, preferably from 10 to 40 wt %, of organic surfactant,
 - (b) optionally from 5 to 80 wt %, preferably from 10 to 60 wt %, of detergency builder, and
 - (c) optionally other detergent ingredients to 100 wt %.
34. A method for depositing a silicone onto a substrate, comprising contacting in an aqueous medium, the substrate and a composition according to claim 1.
35. A process for laundering fabrics by machine or hand, which includes the step of immersing the fabrics in a wash liquor comprising water in which a laundry treatment composition as claimed in claim 1 is dissolved or dispersed.
36. A process as claimed in claim 35, wherein fabrics comprise cotton fabrics.
37. Use of a laundry treatment composition as claimed in claims 1 to enhance the softening benefit of a laundry treatment composition on a substrate.